

## NOTES AND COMMENTS

*J. New York Entomol. Soc.* 99(4):696-699, 1991

### NEW DISTRIBUTIONAL RECORDS FOR THE ANT GENUS *PONERA* (HYMENOPTERA: FORMICIDAE) IN NORTH AMERICA

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The genus *Ponera* consists of 30 living species, mostly confined to the Indo-Australian area (Taylor, 1967; Terayama, 1986). There are two species found in the New World: *P. pennsylvanica* Buckley and *P. exotica* M. Smith. Both are small, rarely collected ants found in soil and leaf litter, most commonly in mesic areas of the southeastern part of the United States. Little is known about them due to the small colony size and their cryptic habits. *Ponera exotica* has been reported from only a few localities in North Carolina, Florida and Oklahoma (Taylor, 1967; Johnson, 1987). It has close affinities with the Indo-Australian fauna, which led Smith (1962) and Taylor (1967) to conclude that it had been introduced into the New World from that area.

We have studied several series of both species and report on considerable range extensions from Kansas, Arkansas, Louisiana (new state records for *P. exotica*), Texas (new state records for both species) and Michoacan (Mexico, new country record for *P. pennsylvanica*). It is apparent that *P. exotica* is part of our native fauna (Johnson, 1987).

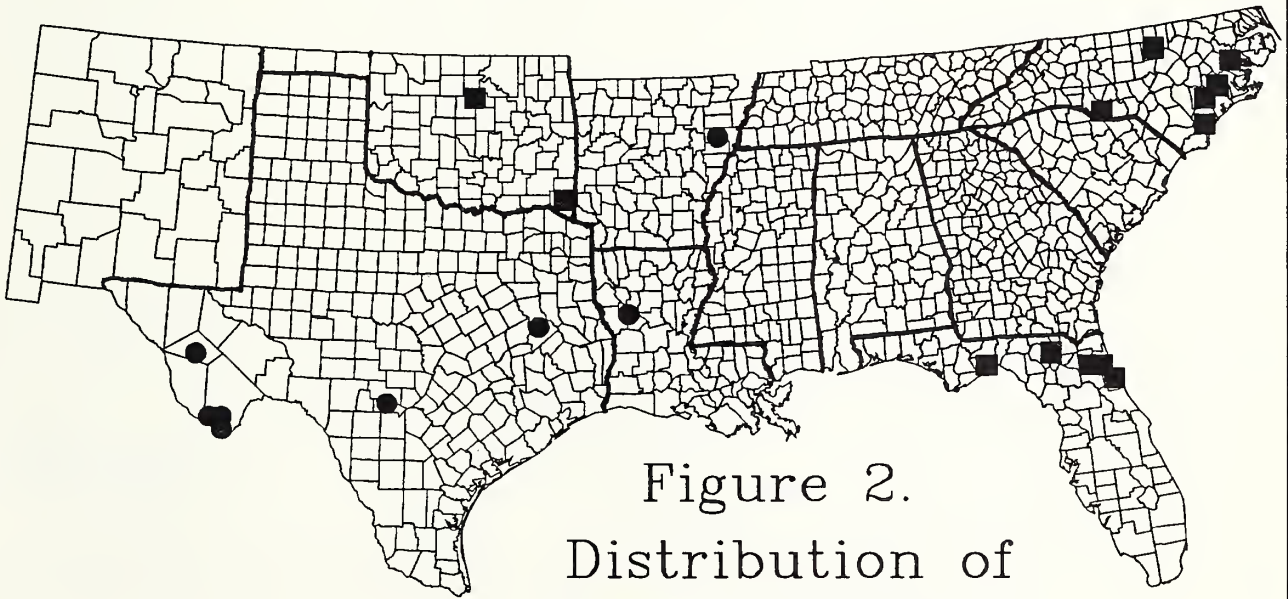
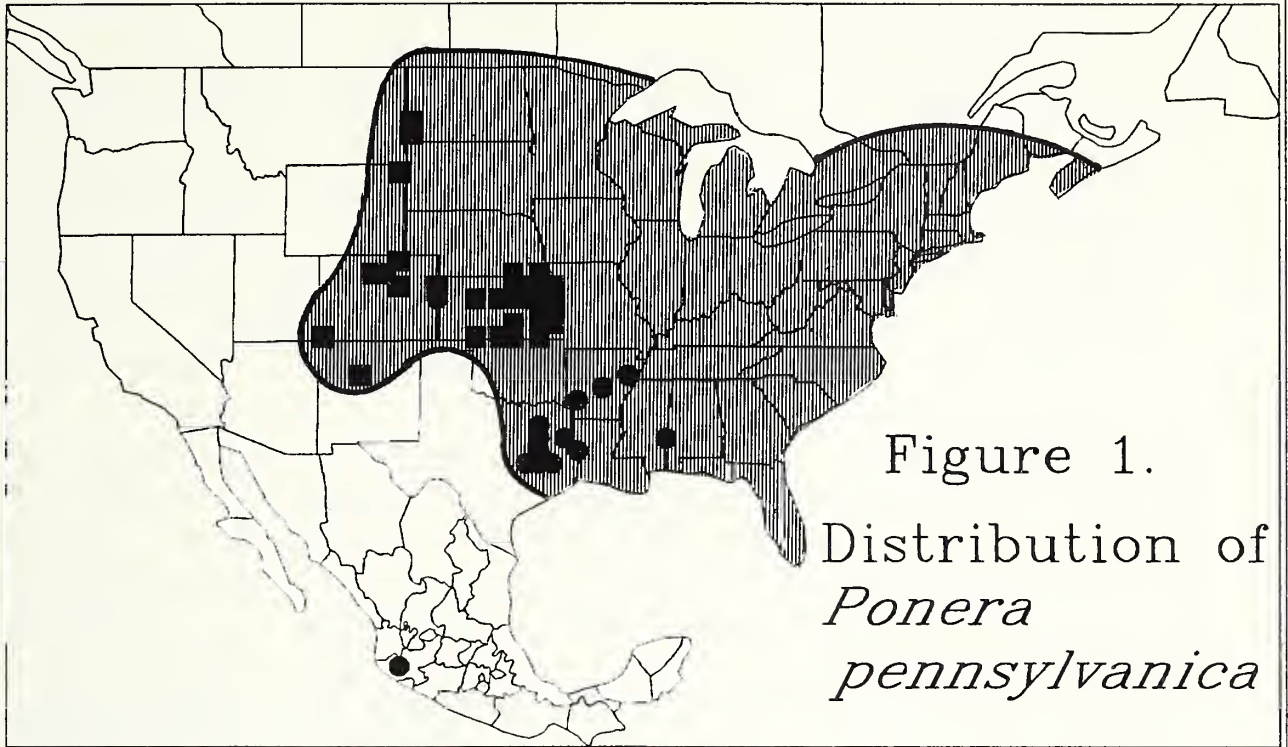
The ants were collected by sieving mesic forest leaf litter from each of the localities through a 1.25 cm mesh sieve, and then extracting the insects using Berlese funnels. Specimens were preserved in 70% ethanol.

*Ponera pennsylvanica* is widely distributed over much of the eastern and central United States and extreme southern Canada (Fig. 1) and is now reported from southwestern Mexico. New distributional records in the USA include ARKANSAS: Cross Co., Village Creek State Park. Pike Co., Center of Diamonds State Park. Pulaski Co., Pinnacle Mountain State Park. KANSAS: Wallace Co., Sharon Springs. MISSISSIPPI: Clark Co., Clark State Park. TEXAS: Houston Co., Big Slough Wilderness. Polk Co., Big Thicket Natural Preserve. Sabine Co., 3 km W Brookeland and 14.5 km E Hemphill. Smith Co., Tyler State Park. Taylor Co., Big Thicket Natural Preserve and Spurger. Walker Co., Huntsville State Park. Wood Co., 3.5 mi W Hawkins. A

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Figs. 1, 2. 1. The distribution of *Ponera pennsylvanica*. Circles are our records, stippled areas and squares are from the literature (Taylor, 1967; Browne and Gregg, 1969; DuBois, 1985; Wheeler and Wheeler, 1988). Only collection points at the edge of the range of the distribution are shown. 2. The distribution of *Ponera exotica*. Circles are our records, squares are from literature records (Taylor, 1967; Johnson, 1987).



single worker was collected in Mexico: MICHOACAN: 10.5 km N Cheran, 28-vii-1988, 2,255 meters, R. Anderson.

*Ponera exotica* also appears to be widely distributed in the United States, at least from western Texas north to Oklahoma, east to North Carolina and south to Florida. It probably occurs in the mountains of northern Mexico. It is common in leaf litter in the montane forests of Big Bend National Park, Texas. New localities include: ARKANSAS: Cross Co., Village Creek State Park. LOUISIANA: Natchitoches Parish, Kisatchie National Forest, Red Bluff Camp. TEXAS: Bandera Co., Lost Maples State Natural Area. Brewster Co., Big Bend National Park (Cattail Falls, Pine Canyon, Oak Canyon). Houston Co., Big Slough Wilderness. Jeff Davis Co., 3.4 km NE Fort Davis.

Both species were found in the same samples at two localities (AR, Cross Co. and TX, Houston Co.). *Ponera pennsylvanica* appears to be a widely distributed eastern species, while *P. exotica* is a more restricted southeastern species (Figs. 1 and 2).

We know almost nothing about the roles these ants play in ecosystems, but they are apparently predators (Bechinski and Pedigo, 1981), especially on termites (Escoubas et al., 1987). Nests of *P. pennsylvanica* occur in shaded areas in or near deciduous forests under stones and in decayed logs (DuBois, 1985). Males and females have been collected in nests from July to September (DuBois, 1985). Both species are common and large numbers can be found by intensive collecting, especially with litter and soil extractions. More intensive collecting could easily reveal more details of their habits and distributions.—*William P. MacKay and Robert S. Anderson, Laboratory for Environmental Biology, Department of Biological Sciences, The University of Texas, El Paso, Texas 79968 (WPM), and Canadian Museum of Nature, Ottawa K1P 6P4, Canada (RSA).* Please correspond with William P. MacKay at the University of Texas.

Our research was supported by the Regents Appropriations—Faculty Research grant #083-50-794-23 of the University of Texas. Voucher specimens are deposited in the Texas A&M University insect collection and in the Harvard Museum of Comparative Zoology.

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Received 30 November 1989; accepted 13 March 1991.

*J. New York Entomol. Soc.* 99(4):699–700, 1991

**NOTES ON THE BIOLOGY AND BEHAVIOR OF  
*EUPASTRANAIA FENESTRATA* MÉNÉTRIÉS  
(LEPIDOPTERA: PYRALIDAE: MIDILINAE)**

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There is little knowledge about the biology of the Midilinae, a small subtropical subfamily of Pyralidae. According to Munroe (1970), 45 species in seven genera are known. Munroe adds that the adults are sluggish and weakly phototactic, making them rare in collections. The only immature record known is that of the larva of *Cacographis osteolalis* Lederer as a borer in *Colocasia* (Araceae) (Munroe, 1970).

In this note we present the first host record for *Eupastranaia fenestrata* Ménétrés larvae and some information about its biology and behaviour.

This study was carried out in the “restinga” (coastal scrub) of Barra de Maricá, Rio de Janeiro State, Brasil (22°57'S, 42°50'W) where *Philodendron corcovadense* Kunth (Araceae) is the host of *E. fenestrata*. According to Munroe (1970) this moth species occurs from southern Brazil to northern Argentina.

The moth lays single eggs on the upper or lower surface of the leaves. The newly hatched larva bores into a petiole or into the leaf bud. The third instar larva moves to the apical portion of the stem, bores into it and stays there until adult emergence. During larval development a chamber is formed and frass is placed outside through the larval penetration hole. Larval development lasts approximately 41 days (N = 15) with seven instars, and the pupal stage lasts approximately 25 days (N = 3).

A few *E. fenestrata* eggs were parasitized by *Telenomus californicus* species group (Hymenoptera: Scelionidae), a gregarious parasitoid.

When the larva starts feeding activity inside the stem the plant apical growth is stopped, resulting in a compensatory growth response. A lateral stem bud starts to grow just below the larva chamber causing an abnormal architecture in *P. corcovadense* (Fig. 1).

In order to test the nature of the plant response to larval feeding, fifteen apical shoots of *P. corcovadense* were removed. After 60 days, 87% of the plants produced lateral stems and only 7% of the plants in the control group produced lateral stems, thus showing the mechanical nature of plant response.

Voucher specimens of *E. fenestrata* are deposited in the Museu Nacional do Rio de Janeiro, Rio de Janeiro, Brasil, and ones of the *Telenomus californicus* species group are in the Museu de La Plata, Argentina.—*Marina C.P. Pimentel, Margarete*